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What is claimed is:

1. A magnetic recording medium comprising:

a substrate;

a non-magnetic spacer material on the substrate; and

a soft magnetic underlayer on the non-magnetic spacer material, the soft magnetic underlayer containing iron, cobalt and boron.

2. The magnetic recording medium as recited in claim 1, wherein the non-magnetic spacer material is approximately 0-5 nm thick.

3. The magnetic recording medium as recited in claim 1, wherein the soft magnetic underlayer is approximately 240 nm thick.

4. The magnetic recording medium as recited in claim3, wherein the soft magnetic underlayer is comprised of alternating layers of an iron-cobalt alloy and tantalum.

5. The magnetic recording medium as recited in claim 4, wherein the SUL comprises that iron-cobalt layers of about 80 nm thick and three tantalum layers of about 0-5 nm thick.

6. The magnetic recording medium as recited in claim 4, wherein the SUL comprises a first iron-cobalt layer of about 80 nm thick and a second iron-cobalt layer of about 160 nm thick having a tantalum layer of about 0-5 nm thick therebetween.

7. The magnetic recording medium as recited in claim 1, wherein the soft magnetic underlayer is further comprised of about 90 atomic percent iron-cobalt alloy and about 10 atomic percent of boron.

8. The magnetic recording medium as recited in claim 4, wherein the iron-cobalt alloy is further comprised of about 65 atomic percent iron and about 35 atomic percent cobalt.

9. The magnetic recording medium as recited in claim 1, further comprising a plurality of alternating non-magnetic spacer material and soft magnetic underlayers.

10. The magnetic recording medium as recited in claim 1, further comprising a second non-magnetic spacer material on the soft magnetic underlayer.

11. The magnetic recording medium as recited in claim 7, further comprising a perpendicular magnetic recording layer on the second non-magnetic spacer material.

12. The magnetic recording medium as recited in claim 6, further comprising a second non-magnetic spacer material on the soft magnetic underlayer.

13. The magnetic recording material as recited in claim 1, wherein the non-magnetic spacer material contains tantalum.

14. A method of manufacturing a perpendicular magnetic recording medium, the method comprising:

providing a substrate;

depositing a non-magnetic spacer material on the substrate;

depositing a soft magnetic underlayer containing iron, cobalt and boron on the non-magnetic spacer material; and

depositing a perpendicular magnetic recording material on the soft magnetic underlayer.

15. The method as recited in claim 11, wherein the step of depositing the soft magnetic underlayer comprises depositing a soft magnetic underlayer containing approximately 90 atomic percent iron-cobalt alloy and approximately 10 atomic percent boron.

16. The method as recited in claim 12, wherein the step of depositing the soft magnetic underlayer further comprises depositing a soft magnetic underlayer having a iron-cobalt alloy containing approximately 65 atomic percent iron and approximately 35 atomic percent cobalt.

17. The method as recited in claim 11, wherein the step of depositing the soft magnetic underlayer includes depositing the soft magnetic underlayer at a thickness of about 80 nm.

18. The method as recited in claim 13, wherein the step of depositing the soft magnetic underlayer includes depositing the soft magnetic underlayer at a thickness of about 80 nm.

19. The method as recited in claim 11, wherein the step of depositing the non-magnetic spacer material comprises depositing a tantalum layer on the substrate.

20. The method as recited in claim 16, wherein the tantalum layer is deposited at a thickness of about 1-5 nm.

21. The method as recited in claim 14, wherein the step of depositing the non-magnetic spacer material comprises depositing a tantalum layer on the substrate.

22. The method as recited in claim 18, wherein the tantalum layer is deposited at a thickness of about 1-5 nm.

23. The method as recited in claim 15, wherein the step of depositing the non-magnetic spacer material comprises depositing a tantalum layer on the substrate.

24. The method as recited in claim 20, wherein the tantalum layer is deposited at a thickness of about 1-5 nm.

25. The method as recited in claim 11, further comprising the step of depositing a second non-magnetic spacer material on the soft magnetic underlayer under the perpendicular recording medium.

26. A method of manufacturing a magnetic recording medium, the method comprising:

providing a substrate;

depositing a first non-magnetic spacer material on the substrate;

depositing a soft magnetic underlayer containing iron, cobalt and boron on the non-magnetic spacer material; and

depositing a second non-magnetic spacer material on the soft magnetic underlayer.

27. The method as recited in claim 23, further comprising the step of annealing the magnetic recording medium.

28. The method as recited in claim 24, further comprising the step of depositing a perpendicular recording medium on the second non-magnetic spacer material.